

Appendix M. Painted Rock Burro Herd Manageability Analysis

The Painted Rock Herd Area (PRHA) is located approximately 85 miles southwest of the metro Phoenix area and about 11 miles west of Gila Bend, Arizona, and surrounds the Painted Rock Reservoir area. The Herd Area (HA) encompasses approximately 38,737 acres, of which 31,106 acres are BLM-managed public lands, 4,834 acres are private lands, and 2,796 acres are Arizona state lands. The HA includes portions of three allotments: Artex, Painted Rock, and Dendora Valley. All three allotments are classified as ephemeral. The HA has been home to wild burros and a small band of horses over the years. Management of the herd area applies only to the Lower Sonoran Decision Area. No Herd Management Areas (HMAs) have been allocated within either Decision Area. The Painted Rock Herd Area is shown on Map 3-15.

The habitat of the Painted Rock Herd Area consists about 10,700 acres of river bottom between the Painted Rock Dam and Oatman Mountain. Approximately 28,000 acres of the Herd Area are upland volcanic flow in a region known as the Sentinel Plain. This area consists of broad lower Sonoran Desert plains cut by sandy washes and low mountain ranges. Vegetation consists of palo verde, cacti, creosote bush, and sage. The Gila River bisects the northern portion of the HA and is characterized by salt cedar, mesquite, cottonwood, and willows. Wildlife species that also inhabit the area include desert mule deer, javelina, dove, quail, water fowl, and a variety of small mammals, birds, amphibians, and reptiles.

The wild horses and burros that have historically inhabited this area are probably descendants from pack and work animals brought by the Spaniards and escaped or were released into the desert. With the discovery of gold and silver in the 1800s, miners and settlers brought more animals with them. Burros and ponies were often used inside the mines themselves, and burros were also used to breed with horses to produce mules, which were highly sought after for driving and packing in the rugged west.

At one time, more than 10,000 wild burros were found in California, Arizona, and Nevada. The BLM estimates that approximately 33,000 horses and 5,500 burros are roaming on BLM-managed rangelands in 10 Western states, based on the latest data available, compiled as of June 17, 2011. The 2011 Arizona population consists of 434 wild horses and 2,761 wild burros. Arizona boasts the largest burro population in America, more than the other nine states combined. Wild horses and burros have virtually no natural predators and their herd sizes can double about every four years. As a result, the agency must remove thousands of animals from the range each year to control herd sizes.

The social structure of most wild horse herds consists of breeding and bachelor bands. Breeding bands or harems usually consist of a dominant stallion, lead or dominant mare(s), a group of breeding mares, and associated foals and yearlings. Bachelor bands consist of various aged males that either have not yet established their own harem or have lost their mares (Singer et.al, 2000). Although wild horse bands tend to use the same habitat areas (home ranges) from year to year, they are not territorial and do not defend preferred habitat areas. As a result, bands often graze and water near each other, and there may be movement of mares between bands. This, in combination with the periodic displacement of the dominant stallion and removal or death of other horses, results in a very fluid social structure in most herds. These factors are beneficial in enhancing genetic diversity (Singer et.al, 2000).

In contrast to wild horses, wild burros do not form breeding bands. There are no strong individual bonds other than jenny-foal relationships. Wild burros present themselves as single animals, all-male groups, all-female groups, jenny-foal groups, or mixed groups. All of the groups are variable and their composition may change at any time. This loose social structure, where all animals are potential breeding partners, maximizes genetic diversity in small or dispersed burro populations (Singer et.al, 2000).

Burros evolved in the harsh deserts of North Africa and are very well adapted to a dry desert environment. Two distinct breeds are attributed with being the ancestors of today's western burros: Nubian burros have a black stripe across the shoulders and down the middle of the back, giving the appearance of a cross when viewed from above; Somalian burros have leg stripes on both front and hind legs, resembling a zebra's markings. These characteristics can be seen in most Arizona burro populations. Left alone in the remote region of Painted Rock with few natural predators, the wild burros survived the intense heat on the coarse vegetation and limited water. However, with the encroachment of man and the installation of fences, roads, and highways, their ability to disperse and mingle with other herds is very limited.

In 1971, Congress passed The Wild Free-Roaming Horses and Burros Act (WFRHBA, or "The Act," Public Law 92-195). The Act gave BLM the honor and the responsibility to manage wild horse and burro populations on BLM-administered lands in the west. The Act states, "It is the policy of Congress that wild, free-roaming horses and burros shall be protected from capture, branding, harassment, or death; and to accomplish this they are to be considered in the area where presently found, as an integral part of the natural system of the public lands." The WFRHBA goes on to define wild horse and burro "range" as, "the amount of land necessary to sustain an existing herd or herds of wild free-roaming horses and burros, which does not exceed their known territorial limits, and which is devoted principally, but not necessarily exclusively to their welfare in keeping with the multiple-use management concept for the public lands."

One of the first tasks involved in implementing the WFRHBA was to survey public lands and delineate where wild horses and burros found habitat and forage, and designate these areas as "Herd Areas" (HAs). These Herd Areas established boundaries of where wild horses and burros were located at the passage of The Act. Later, Herd Management Areas (HMAs) were established within those Herd Areas to manage healthy, self-sustaining populations of wild horses and/or burros, in accordance with BLM land use plans (i.e. RMPs) and other decisions.

The Arizona statewide inventory of known or likely wild horse and burro use areas was conducted by the BLM in 1974. Data from this inventory identified seven burros and five horses in the Painted Rock area, which became the Herd Area. However, it was later discovered that the only year-round waters available for the animals are on private farm lands in the northern third of the HA. The southern two thirds of the HA is Sonoran Desert scrub and classified as ephemeral use for cattle. (Ephemeral use means that cattle are only permitted on the rangelands during years of above-average precipitation when ephemeral forage [e.g., annual grasses and forbs] are abundant and provide hundreds or thousands of pounds of high-protein forage for short periods of time, after which the cattle are removed from the range again.)

All planning documents, including the Lower Gila South RMP, referred only to wild burros in the area. In 1993, farmers on the northern end of the HA complained about horses coming onto their farm land, and the BLM began to remove them as stray animals. The International Society for the Protection of Mustangs and Burros intervened, stating that these were wild horses and subject to protection afforded by the Wild Free-Roaming Horse and Burro Act of 1971. In 1999,

it was determined by the Phoenix Field Manager that the animals were, in fact, present in the area in 1971 and subject to the protection by the WFRHBA. However, the area remained a HA, and nuisance complaints continued from the local farmers. In approximately 1997, Phoenix Field Office proposed amendments to the Lower Gila North MFP and Lower Gila South RMP that, among other proposals, would have classified the Painted Rock Herd Area as a Herd Management Area, with proposals to establish an Appropriate Management Level (AML) of wild burros and horses to manage in the area. However, protests and litigation of the RMP Amendment resulted in a settlement agreement regarding the Painted Rock Herd Area. The BLM was instructed to conduct an analysis of the manageability of the Painted Rock burro herd and make a decision in the new RMP based on that analysis. Until that occurred, "All burros would be removed from the Painted Rock Reservoir area."

Historic aerial surveys documented 7 burros and 5 horses in 1974, 13 burros and 0 horses in 1980, and no horses or burros in 2000. However, due to the terrain and dense vegetation in some areas, it is likely that animals were not sighted, because local farmers in the Painted Rock area have occasionally requested the removal of nuisance animals from their private property. Since 1992, a total of sixty-four horses and seven burros have been removed from the HA.

In 2007, sixteen horses and one burro were captured and removed from the Painted Rock HA. From these 16 horses, 11 blood samples were collected for genetics analysis (Cothran, 2010). Results from this analysis stated:

"The Painted Rock herd shows genetics closely related to the Caspian [pony] within the Oriental horse cluster. . . . Genetic variation . . . is very low and well below the critical level (the testing indicator used is not related to sample size). . . . [This is] likely due to a low population size over a few generations. . . . Overall results suggest that this herd has been isolated and may have been founded from a small number of animals. . . . Inbreeding within the herd is likely and will probably continue and increase [which] could cause physical defects and low fertility."

Recommendations for the Painted Rock Herd Area:

The overall goal of the BLM's Wild Horse and Burro Program is to preserve the health of the land and water resources by managing wild horse and burro populations so as to restore and maintain a thriving natural ecological balance (TNEB). Appropriate management levels (AML) for the herds, the habitat requirements of the animals, the relationships with other uses of the public and adjacent private lands, are analyzed to determine the health of both the animals and the rangeland resources (43 CFR 4710.3-1). Wild horses and burros are to be managed as self-sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat, while maintaining their free-roaming behavior (43 CFR 4700.0-6). However, wild horses and burros must be managed within the limits the animals' herd areas (43 CFR 4710.4). Excess animals are gathered and removed, and are offered to the public through the Bureau of Land Management's Adopt a Horse or Burro Program (BLM Handbook, H-4700-1, 2010).

In determining whether or not to change the status of the Painted Rock Herd Area to a Herd Management Area, and thus manage populations of wild horses and/or burros, a herd area manageability analysis was necessary (and required per the Lower Gila South RMP Amendment settlement agreement). This analysis considers habitat requirements and availability, herd movement (including immigration and emigration), health of the herd and rangeland resources, and genetic diversity.

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Recommendations for the Painted Rock Herd Area:

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The BLM Wild Horses and Burros Handbook (2010) defines the four components required to manage wild horse and burro populations in a Herd Management Area: forage, water, cover, and space.

1) Forage: Forage (vegetation) is one of the essential components of wild horse and burro habitat. The authorized officer should determine whether vegetation provides sustainable forage (and cover) for the animals. Vegetation should be managed within each HMA in a manner that achieves and maintains a thriving natural ecological balance (TNEB) and assures significant progress is made toward achieving the Standards for Land Health and other site-specific or landscape-level objectives (16 USC § 1333(a)).

2) Water: An adequate year-round quantity and quality of water must be present in the HMA to sustain wild horse and burro numbers within AML. If this habitat requirement is inadequate, the authorized officer should amend or revise the land use plan to remove the area's designation as an HMA.

3) Cover (Vegetation) and Space: The terrain and vegetation that are needed to provide wild horses and burros with escape (hiding) cover and shelter from the prevailing weather. (Vegetation also provides sustainable forage). Wild horses and burros require sufficient space to allow the herd to move freely between water and forage within seasonal habitats. Cover and space are interrelated. If the HMA has barriers preventing free movement of the herds throughout the HMA or between forage and water, it would not have sufficient cover and space. Barriers can be natural (e.g., rock rims, rivers) or human-induced (e.g., fences, highways). To achieve a TNEB on the public lands, wild horses and burros should be managed in a manner that assures significant progress is made toward achieving the Land Health Standards for upland vegetation and riparian plant communities, watershed function, and habitat quality for animal populations, as well as other site-specific or landscape-level objectives, including those necessary to protect and manage Threatened, Endangered, and Sensitive Species (TES). Wild horse and burro herd health is promoted by achieving and maintaining TNEB.

On the basis of the above information, management opportunities for wild horses and burros within the Painted Rock Herd Area are extremely limited without extensive intervention and mitigation on the part of the BLM. Therefore, it is recommended that the Painted Rock Herd Area remain a herd area only, and not be converted to a herd management area. Wild horses and burros should be removed as funding is available, with a target population of zero animals. Wild horses and burros removed from the Herd Area would be available through the BLM Adopt a Wild Horse or Burro Program.

Rationale and authority for this recommendation:

1. Essential habitat components are not available for healthy herds of wild horses and/or burros: There is very limited forage and no year-round water source within the boundaries of the Painted Rock Herd Area. The only year-round waters available for the wild burros and horse are on private farm lands in the northern third of the HA. The southern two-thirds of the HA is Sonoran Desert scrub with very little palatable forage. This causes the wild horses and burros to leave the boundaries of the HA and become a nuisance by utilizing private waters and agricultural fields and pastures.

a. Habitat for wild horses and burros is composed of four essential components: forage, water, cover, and space. These components must be present within an HMA in sufficient amounts to

sustain healthy wild horse and burro populations and healthy rangelands over the long term. If they are not present in sufficient amounts, the authorized officer should consider amending or revising the land use plan to remove the area's designation as an HMA. If the decision is made to return a designated HMA to HA status, the total population of wild horses and burros should then be gathered and removed (BLM Handbook, H-4700-1, 2010). (Also see BLM Manual Section 4710.3.

b. Furthermore, "Management of wild horses and burros shall be undertaken with the objective of limiting the animals' distribution to herd areas" (43 CFR 4710.4). A recurring pattern of wild horse and/or burro movement out of the HMA to access forage, water, or thermal or hiding cover is an indication that year-long wild horses and burros use cannot be sustained. If one or more of the key habitat components is missing, the HMA should be considered as unsuitable for year-long use. In these situations, the authorized officer should consider removing the area's designation as an HMA through land use planning (BLM Handbook, H-4700-1, 2010).

2. Wild horse and burro movement is restricted:

Fences, roads, highways, and natural barriers isolate the Painted Rock HA from other (distant) herd areas, and restrict wild, free-roaming behavior of these animals. Immigration and emigration is very limited.

a. Title 43 CFR 4700.0-6 (c) states, "Management activities affecting wild horses and burros shall be undertaken with the goal of maintaining free-roaming behavior." Additionally, management of wild horses and burros on the public lands is limited to herd areas (HAs), consistent with the WFRHBA (16 USC § 1339) which states: "Nothing in this Act shall be construed to authorize the Secretary to relocate wild free-roaming horses or burros to areas of the public lands where they do not presently exist."

b) Where appropriate, a land use plan may include decisions not to manage wild horses and/or burros in all or a part of an HA. An example is intermingled and unfenced private lands within HAs where the landowners are unwilling to make them available for wild horse and burro use. Another example would be where essential habitat components (forage, water, cover and space) are unavailable or insufficient to sustain healthy wild horses and burros and healthy rangelands over the long term (BLM Handbook, H-4700-1, 2010).

3) This population of wild horses is unhealthy and unsustainable:

This Herd Area is isolated from other wild horse and burro herds, causing low genetic variability. Genetics testing of the Painted Rock horses in 2000 and 2010 indicated that genetic variation "is very low and well below the critical level, . . . likely due to a low population size over a few generations. . . . Inbreeding within the herd is likely and will probably continue and increase [which] could cause physical defects and low fertility (Cothran 2010)." Genetics were not conducted on wild burros (only one was captured in 2007), but it is also likely that genetic similarity exists in the burros in the area.

a. A minimum population size of 50 effective breeding animals (i.e., a total population size of about 150-200 animals) is currently recommended to maintain an acceptable level of genetic diversity within reproducing wild horse and burro populations (Cothran, 2009). This number is required to keep the rate of loss of genetic variation at 1 percent per generation. Animal interchange between adjacent HMAs with smaller population sizes may reduce the need for

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maintaining populations of this size within each individual HMA. Research has not yet established a recommended minimum breeding herd size for burros (BLM Handbook, H-4700-1, 2010).

b. Wild horses and burros shall be managed as self-sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat (43 CFR 4700.0-6 (a)). It is unlikely that the addition of 2 or more outside mares or jennies, as suggested by the analysis (Cothran 2010), would enhance the blood lines enough to make these healthy, sustainable populations of wild horses or burros. Management of wild horse and burro herds under these conditions is inconsistent with the spirit of the WFRHBA and with 43 CFR 4700.0-6.

In accordance with the Wild Horses and Burros Management Handbook (2010), "If wild horse herd size in small, isolated HMAs is so low that mitigation is not feasible, consideration should be given to managing the HMA for non-reproducing wild horses or to removing the area's designation as an HMA through land use planning." Due to the other rationale herein (lack of essential habitat components, movement outside the HA boundaries, and barriers limiting free-roaming behavior), managing the Painted Rock Herd Area as an HMA with non-reproducing wild horses is not feasible.

Therefore, the herd area's designation should remain a Herd Area, with a target population of zero wild horses and burros. When the authorized officer determines that excess wild horses and burros exist, gathers to capture and remove the animals immediately or as soon as possible are required. For additional information, refer to BLM Manual Section 4720 (Removal) and 43 CFR 4720.1, 4740.1 and 2.

REFERENCES

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